

ABSTRACT OF THE DISCLOSURE

[57] Certain embodiments include a system and method for an improved image acquisition rate in an ultrasound imaging system. The system includes an encoder for encoding an ultrasound signal with a code for transmission to form an encoded ultrasound signal, a transmitter for transmitting the encoded ultrasound signal, and a receiver for receiving an encoded echo signal produced based on the encoded ultrasound signal, wherein the receiver decodes the encoded echo signal to produce a decoded echo signal. The transmitter may include a transducer array for transmitting the encoded ultrasound signal. The receiver may include a separate transducer element or a dedicated transducer element of the transmitter transducer array. The system further includes a processor for determining a position of a scatterer based on a time of transmission of the encoded ultrasound signal, a time of reception of the encoded echo signal, and a strength of the encoded echo signal.